



What drives and constrains effective leadership in tackling child undernutrition? Findings from Bangladesh, Ethiopia, India and Kenya [☆]



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ABSTRACT

Strong leadership has been highlighted as a common element of success within countries that have made rapid progress in tackling child and maternal undernutrition. Yet little is known of what contributes to nutrition leaders' success or lack of it in particular policy environments. This study of 89 individuals identified as influential within child and maternal undernutrition policy and programming in Bangladesh, Ethiopia, Kenya and India sheds light on why particular individuals have been effective in contributing towards positive changes in nutrition policy, and how they operate in the wider policy/political sphere. We employ a framework working outwards from individual capabilities, knowledge and motivations, through to wider political economy considerations and the narratives and knowledge structuring individual capacity. We argue that only by locating individuals within this wider political economy can we begin to appreciate the range of strategies and avenues for influence (or constraints to that influence) that individual leaders employ and encounter.

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Introduction

Child and maternal undernutrition have risen to prominence in the past 5–6 years (Gillespie et al., 2013), backed by a relative consensus on the evidence as to 'what works' in terms of nutrition specific interventions known to reduce child mortality and morbidity (Bhutta et al., 2013; Black et al., 2008). Given the scale and

consequences of undernutrition (Haddad, 2013), such global recognition is long overdue. But beyond a growing number of multilateral meetings and summits on the issue, undernutrition remains a long-term crisis affecting 165 million children in its chronic form of stunting and is estimated to be responsible for 45% of child deaths (Bhutta et al., 2013). Whilst the current global focus and slowly increasing resource flows to nutrition programming are causes for optimism, the issue as a whole remains vulnerable to a loss of momentum. In short, business as usual is likely to fall short of the goals agreed by the World Health Assembly to cut stunting prevalence rates by 40% by 2025 (from 2010 levels).

It is therefore not surprising that calls for leadership to maintain momentum at a global level and convert it into action on the ground at a national level are multiplying (Johnson-Welch et al., 2005; Bryce et al., 2008; Gillespie et al., 2013). In case studies of countries which have accelerated reductions in undernutrition relative to other high burden countries, the action of leaders and champions in driving forward advocacy and policy formulation; co-ordination and implementation are repeatedly identified as critical to this success, including Peru (Mejia Acosta and Haddad, 2014), Brazil (Mejia Acosta and Fanzo, 2012), Thailand (Heaver, 2005), and the Indian states of Tamil Nadu (Heaver, 2005) and Maharashtra (Haddad et al., 2014). A three country study of successful nutrition advocacy (in Bangladesh, Ethiopia and Vietnam) concludes that "Strong leadership, especially government

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leadership driven by experienced and senior persons is critically important. Sustained negotiation, persuasion and mobilisation skills are key leadership capacities" (Pelletier, 2013:91), whilst a five country study (Bangladesh, Bolivia, Guatemala, Peru and Vietnam) reaches similar conclusions on the need to enhance "strategic capacity" across the nutrition community (Pelletier et al., 2011, 11). Global initiatives including the Scaling Up Nutrition movement have focused on building and supporting leadership capacity at a country level in government, civil society, the UN system and business communities; whilst nationally led initiatives such as India's Coalition for Food and Nutrition Security are premised on this need to build a 'leadership agenda for action' (Swaminathan, 2009).

Leadership has also been highlighted in the wider field of public health as an important factor for effective public action – whether in bringing issues such as child or maternal mortality to global attention and scaling up appropriate responses (Shiffman, 2010; Shiffman and Smith, 2007); tackling complex issues such as HIV and AIDS at national and community levels (Bor, 2007; Campbell, 2010) or ensuring effective partnerships in tackling serious public health problems (El Ansari et al., 2009; Kumpfer et al., 1993; Metzger et al., 2005; Weiss et al., 2010). Recent opinions in the Lancet have criticised a lack of leadership in certain national public health settings (Horton, 2011); or have espoused similar calls for 'heroes' in public health leadership (Day et al., 2014).

Collectively, the nutrition and public health evidence leave little doubt as to the role of leadership as a common factor in successful advocacy/agenda setting, policy formulation and implementation. Whilst it might not be possible to *prove* the extent to which leadership is a *necessary* factor beyond this case study evidence³; logic dictates that improving and supporting what leadership exists in the sector; and trying to build leadership where there is none; is likely to play a valuable role in strengthening the systems, institutions and organisations put in place to tackle a complex problem.

Yet despite this growing interest in both policy and academic circles we still know little about the attributes of leaders in nutrition. In other words, having identified leaders as being a common element in successful country cases, we do not know who they are, how they become leaders, how they function, with whom they work, what makes them effective, the challenges they face in their work and how we may both support them and facilitate the emergence of future leaders. This paper aims to try to answer these and other questions on nutrition leadership by drawing on interviews with 89 individuals identified as influential in policy targeted at reducing child and maternal undernutrition in four countries with high burdens of undernutrition: Kenya, Ethiopia, India and Bangladesh.

Leadership in nutrition and leadership in development – what do we know?

Leadership was a strong theme identified in the papers which considered international and national action as part of the 2008 Lancet series on child nutrition. Bryce and colleagues (Bryce et al., 2008) highlight leadership as a key factor in national level capacity for effective action; with a major barrier to action being the lack of capacity to train and support individuals to take on roles of strategic significance. Having interviewed 30 individuals identified as national nutrition leaders, the authors summarise their views that "strategic capacities that are needed urgently include the knowledge, skills, leadership, and human resources for envisioning, shaping, and guiding the national and subnational

nutrition agendas, and especially the capacity to broaden, deepen, and sustain the commitment to nutrition." (Bryce et al., 2008, p. 522). Morris and colleagues' assessment of the international system did not examine individual leadership but famously decries the dysfunctional and poorly coordinated global stewardship⁴ within the international nutrition architecture – and similarly calls for support to build the capacity of leaders in practice and in nutrition research (Morris et al., 2008).

More recently, the World Public Health Nutrition Association has published a guide to the competencies (knowledge, skills and attitudes) required to help build the workforce in global public health nutrition (Hughes et al., 2011); and this has been followed up with work specific to Europe (Jonsdottir et al., 2010) and suggestions for its application in Africa (Delisle, 2012). Leadership is identified in these papers as one of several different competencies spanning knowledge, cross cutting, analytical and practical skills and includes attributes such as effective advocacy, intersectoral collaboration and an ability to "manage[] complex relationships and competing interests of the various stakeholders in the food and nutrition system" (Hughes et al., 2011, p. 33).

Heaver (2005) considers leadership in more depth in the content of case studies of nutrition commitment. He identifies three types of actors: *decision makers* (e.g. heads of ministries in health or agriculture but also finance or planning); *influencers* (those not making final policy decisions but able to influence them – from donors to mid-level bureaucrats or civil society actors) and *clients*, the latter which rarely have any voice in policy but which are a potentially untapped source of participatory appraisal and accountability in nutrition programming.

Heaver also identifies subsets of the wider categories defined above as those advocating specific changes. So emerging from amongst decision makers, we find nutrition *champions*; from influencers, *policy entrepreneurs* and from clients, *supporters*. The latter lack either power or an entrepreneurial approach to policy, but not commitment to the cause- and over time, supporters may become entrepreneurs and vice versa (Heaver, 2005). Most importantly, Heaver writes that "Commitment is fragile when it depends on individual champions. Policy Entrepreneurs therefore need to create networks or partnerships of nutrition champions and supporters across the concerned agencies and among NGOs and civil society" (Heaver, 2005). In many ways this paper is addressing the issue of how decision makers, influencers and clients can be supported to maximise their ability to be and to become nutrition champions, nutrition policy entrepreneurs and nutrition supporters – all of whom are nutrition leaders.

Drawing on country case studies, the summary analysis of the Mainstreaming Nutrition Initiative (MNI) (Pelletier et al., 2012) adapts a number of Heaver's wider indicators of commitment alongside the categories of Shiffman and Smith's political agenda setting framework (Shiffman and Smith, 2007). This allows an analysis of how different levels of policy leadership and entrepreneurship interact with the characteristics of the policy process (including e.g. political windows for action – following (Kingdon, 1995)).

The MNI analysis contrasts for example the "largely symbolic" rhetoric of political leaders during national elections in three of the case study countries (Bolivia, Peru and Guatemala) with the less politically visible work of policy entrepreneurs in Vietnam and Bangladesh (Pelletier et al., 2012, pp.6–9).

Leadership is also strongly highlighted in another set of country studies in the 'Analysing Nutrition Governance' (ANG) series, which examined the nutrition policy process in six countries

³ i.e. Observational studies setting up some measure of leadership may be able to establish a link but will be unable to experimentally prove causality.

⁴ "regulating, setting standards and identifying priorities" (Bryce et al., 2008, p. 610 – adapted from: Saltman and Ferroussier-Davis, 2000).

(Bangladesh, Brazil, Ethiopia, India, Peru and Zambia) (Mejia Acosta and Fanzo, 2012). In Brazil, for example, the ‘Zero Hunger’ campaign was closely associated with the presidential campaign and rule of President Lula, whilst in Peru, presidential candidates were persuaded by a civil society coalition advocating nutrition action to sign up to a memorable pledge of ‘5 by 5 by 5’ (reduce childhood stunting amongst the under fives by five per cent in five years) (Mejia Acosta and Fanzo, 2012; Mejia Acosta and Haddad, 2014). This latter finding therefore resonates with the MNI findings on the role of advocacy coalitions both in driving change and co-opting political leaders to the cause through exploiting political windows such as election campaigns.

Beyond these studies, references to the need for leaders or champions in the nutrition literature are numerous but fail to develop their arguments beyond the simple call for more leadership and vision or identifying the role of strong political leadership in case studies of success. This is out of step with some of the more policy and practice oriented initiatives in nutrition which are beginning to focus more on building leaders and strengthening their leadership attributes – including e.g. the African Nutrition Leadership Programme, the European Nutrition Leadership Platform or the work to strengthen Country and Civil society platform leadership within the SUN movement. But to inform these initiatives and start to understand how to approach the topic of leadership we need to look to work in wider development studies; or beyond to other disciplines, to bolster emerging scholarship on nutrition leadership. A review undertaken for the Developmental Leadership Programme (DLP) finds a generally poor state of research on leadership in international development scholarship. This review looks to extensive literatures existing elsewhere, particularly in business and management studies and organisational and development psychology (Lyne de Ver, 2008). According to the DLP the focus of these disciplines tends to make the resulting literature overly concerned with the individual and their personality attributes – the majority of this literature dealing with attributes of the entrepreneurial and managerial skills of business leaders in North America. This makes it difficult to use such literatures to locate policy leaders and their attributes within wider political processes within low and middle income countries and – most importantly – their interactions with others in actions of advocacy, forming coalitions, representing wider (vested) interests and so on. Overall, the DLP argues strongly for a political take on leadership which emphasises “Leadership is a political process involving the skills of mobilising people and resources in pursuit of a set of shared and negotiated goals” (Leftwich and Wheeler, 2011, p. 5).

Expanding on this approach we draw here also on a review of concepts of leadership in the fields of complexity science, systems science and adult development (Wach and Wolcott, 2013). This summarises effective leadership as dependent on the nature of the complex policy environments in which leaders are operating and the extent to which leaders can understand (and navigate) these environments (Foster-Fishman et al., 2007; Ross, 2006; Snowden and Boone, 2007; Williams and Hummelbrunner, 2010).

A ‘systemic’ model of leadership ‘makes us think about leadership not as top-down influence of individuals in managerial roles but rather, an emergent, interactive process embedded in context and history’ (Uhl-Bien, 2006, p. 7). The roles which will be effective in catalysing change will depend on the context, which will change over time. Effective leadership also relates in part to the degrees to which an individual is able to ‘perceive, understand and manage’ complex situations, which relates to one’s “adult development” level, as opposed to personality traits (Brown, 2011; Jordan, 2011 drawing on Commons et al., 1998, Kegan, 1982). Individuals with relatively high levels of adult development are more able to understand what needs to change within a social network (e.g.

perspectives of certain stakeholders, connections between individuals, access to information, etc.) in order for effective change in policy or practice to take place. They are also more able to understand and appreciate the different perspectives, backgrounds and various “sense-making” capabilities of other individuals, which generally leads to better communication – or even the reshaping of relationships between stakeholders. This is also summarised within the notion of ‘adaptive leadership’ (e.g. Heifetz, 2011, 1994), where leadership is distinguished from ‘authority’ in recognising it is what leaders do rather than how they are labelled which helps us understand best how leadership works – where leaders require skills to develop informal authority to influence – often laterally (ie amongst peers) – to mobilise around a public cause.

In summary, existing work on leadership within nutrition is an emergent state and lacking in country level data. Wider reviews looking outside the discipline have emphasised the need for a situated, contextual (and therefore political) understanding of how leaders operate – but without overlooking the individual skills required for the negotiation of complex issues and equally complex policy environments. In looking at leadership across diverse contexts our focus on leadership needs to be as much on *how leadership operates* rather than simply *what leadership is* (or achieves).

Objectives, questions, guiding concepts and structure

This study is intended to deepen our basic understanding of leadership within nutrition; to contribute to the wider development literature on the nature of leadership; and to suggest ways in which nutrition leaders may be identified and supported. Our empirical approach draws on a comparative sample of 89 participants identified as important or potentially important leaders for nutrition, across Bangladesh, Ethiopia, India and Kenya. We focus specifically on leaders who have contributed to national-level policy changes in nutrition in order to limit the scope of this wide topic, though fully recognise the importance of leadership at different levels of policy and practice. We also emphasise that Heaver’s categories of ‘policy entrepreneurs’ and ‘decision-making champions’ are fluid: effective leaders can play these different roles simultaneously or consecutively.

To frame our political economy analysis we have employed a wider framework (Gillespie et al., 2013) which focuses on knowledge, politics and capacities within nutrition policy and practice. This helps to locate individual leaders within the wider political structures which enable or constrain their action – which we term here the enabling environment (ibid.). Following the review of the literature above, our primary research questions work outwards from the individual in terms of addressing individual capacities as knowledge, skills and motivations and levels of adult development; to wider issues of the political and knowledge environments which shape the room for individuals to manoeuvre within the enabling environment for nutrition. Our five primary questions are as follows:

- What is motivating people to become leaders in nutrition, is there anything common in their background which may have led to them to champion nutrition?
- What enables leaders to operate effectively in the nutrition policy sphere; In particular, what are their analytical and political capabilities?
- What are the external challenges and barriers to their effective operation?
- What do leaders assess as knowledge gaps that are important to fill; how do they employ their existing knowledge?
- How can the international policy community better support and nurture emerging leaders?

The analysis of our interviews in the following analytical sections of this paper therefore maps to the first four questions above, we then proceed to summarise the findings for each of the first four primary questions and draw out the implications for policy (Fig. 1). We find enough coherence and continuity in the themes emerging across the four countries to summarise the analysis below thematically, although significant difference between or similarities within countries are drawn out where relevant.

Methodology

We interviewed⁵ 89 leaders or potential leaders in four countries selected as a focus of the Transform Nutrition research programme consortium, supported by the UK's Department for International Development. The countries: Kenya, Ethiopia, Bangladesh and India, were initially selected as the overall focus of the consortium so as to include two high burden countries⁶ in South Asia and two from East Africa.

As part of the programme's inception phase, consortium partners held stakeholder mapping sessions in each of the country capitals between November 2011 and January 2012. These sessions followed the Net-Map methodology (Schiffer and Waale, 2008) which is a daylong participatory exercise with an invited group of stakeholders, who visually map out key actors in a particular field; draw links between them to indicate relationships and directions of influence and attribute relative power and influence to each actor using small stackable objects such as draughts pieces. The results of these exercises are published separately (POSHAN and Transform Nutrition, 2011; Transform Nutrition, 2011a, b, c) and help build up a picture of organisational power and influence in each country of stakeholders active in nutrition policy and practice focused on child and maternal undernutrition.

An additional stage of analysis was then undertaken with partners in each country. This involved working from a list of influential organisations to create a list of influential figures within each organisation who might be considered as leaders or champions. We were also careful to consider individuals who might be considered as leaders or champions with no institutional home (including e.g. ex bureaucrats, consultants or journalists). Finally, the list was verified by a number of original attendees of the Netmap workshops. Names were added to this list where necessary in a further snowballing technique where mentioned in the subsequent interviews, resulting in a list of about 60–80 individuals per country.

Members of this list were then sampled purposively to try to ensure a balance between sectors and organisations, in order to conduct interviews with about 20 stakeholders per country. Despite this purposeful sample, the final list of interviewees depended also on acceptance rates and availability in the 10–14 days allotted per country for research (see the limitations of the sample in the next section). In total, 89 semi-structured interviews were carried out in the four countries between July 2012 and April 2013. The interview schedule was trialled in each country and modified for local contexts. It contained a number of questions derived from the above literature framed around the wider themes we discuss here of stakeholder backgrounds, motivations, knowledge, practices and capacities for analysis of current policy issues and environments.

Interviews were recorded and transcribed, (or noted where participants elected not to be recorded). All transcripts and notes were

then thematically coded, using the qualitative data analysis software NVIVO, by the lead author.⁷

Methodological limitations of the exercise include the fact that pragmatism, resources and the need to avoid stakeholder fatigue dictated building on the existing institutional mapping exercise rather than implementing the ideal of holding a separate participatory exercise to identify individuals. The move from influential organisation to individuals was reliant on the expertise of in-country partners; the original net map participants and 'snowballed' suggestions; and was therefore open to the inherent bias of individuals within a potentially closed network suggesting others known to themselves. In country partners might have also been limited in their knowledge of what or who had been effective in a complex policy environment in which the full picture is likely unknown to any one stakeholder.

Stakeholders identified

Table 1 provides an overview of the individual stakeholders identified both in the wider exercise and within the purposive sample. This conveys something of the variety of the individuals involved but also of the limitations of the exercise, with, for example, few individuals identified or interviewed working in health and agriculture (and Water/Sanitation); and only few individuals identified overall from e.g. the private sector. The majority of individuals interviewed were working directly in nutrition, either in government, (local and international) civil society organisations, bilateral and multilateral donors or research. They were all educated to at least university level, with the majority holding a post-graduate qualification. Males formed a higher proportion of those interviewed, particularly in Bangladesh (85%); except in Kenya, where the sample was nearly three quarters female.

The nature of our methodology, with the original Net Map sessions asking 'who plays a role in shaping policy and practice within Nutrition?' means that the majority of our sample might be categorised in Heaver's terms (2005) as *policy entrepreneurs* who employ a range of skills to advocate specifically for nutrition and to work with others to achieve their goals. A significant number of participants (over a quarter) directly mentioned situations of having policy influence and were cited by others as influential (often, but not always, with specific examples). Below we discuss the different strategies and tactics they used to achieve this. Because our interviews focused on the policy elites who might be considered as influential/leaders, we did not interview those from Heaver's much wider category of *supporters*. Beyond this, we have avoided firmly categorising our participants in terms of degrees of leadership – partly because the institutional focus of the original NetMap exercises does not allow us to make definitive claims as to which of our participants fall in which category and partly because these classes of individuals are somewhat more fluid than a firm categorisation would suggest (i.e. there is movement between the categories over time and depending on context).

Understanding capacities – individual motivations, attitudes and knowledge

Each of the 89 interviewees were asked to discuss their personal and family backgrounds; education and career history and the factors which drew them into nutrition or related fields in the first place. A number of questions probed their knowledge, attitudes

⁵ All interviews were carried out by the first two named lead authors.

⁶ The countries where a significant percentage of children under 5 are stunted.

⁷ Coding was initially discussed between the lead author and the lead field researcher (Wach) and coding categories reflected basic themes or were allowed to emerge from the material. Extensive summary analysis of all coding was shared and discussed between all authors to identify key themes forming the basis of the subsequent analysis section reported here.

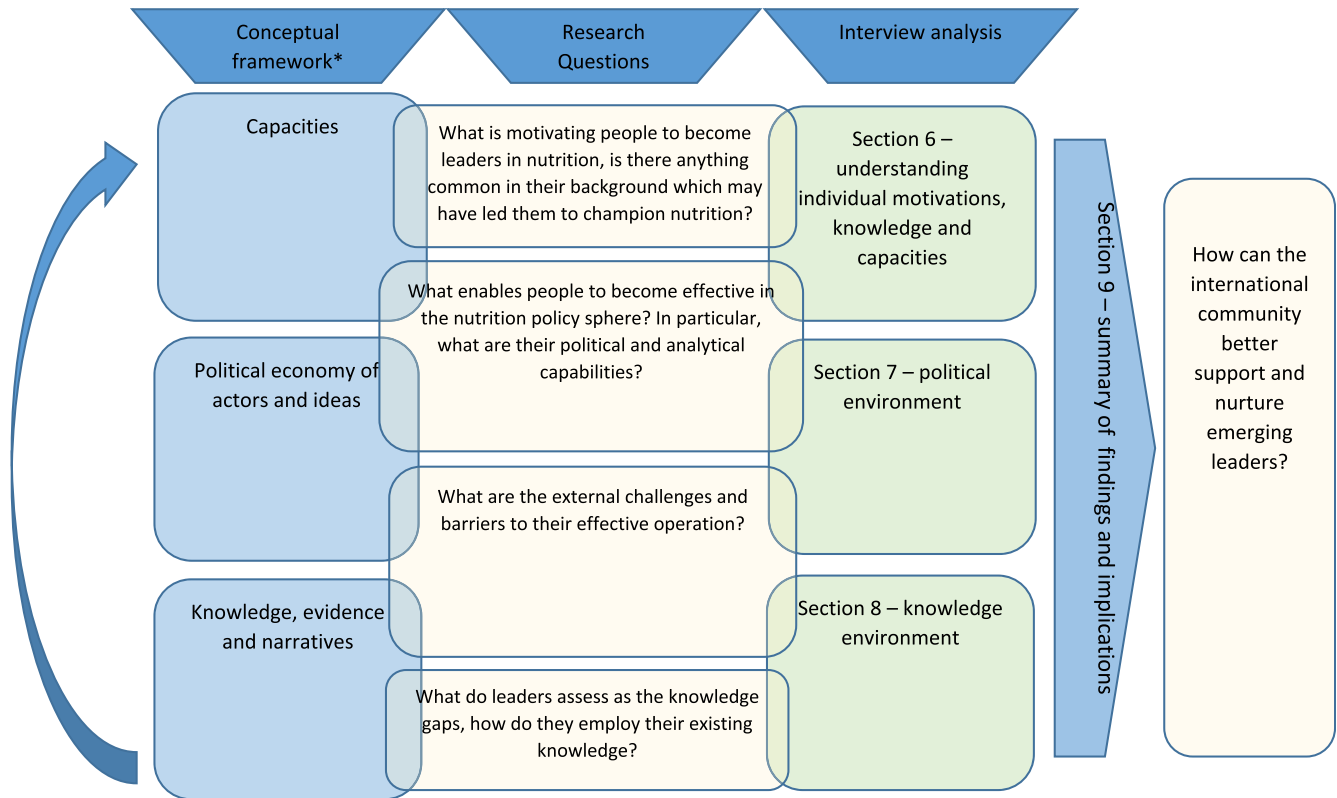


Fig. 1. Conceptual framework mapped to research questions and paper structure.

Table 1
Breakdown of individuals interviewed/identified. Biographical details for interviewees only.

	Bangladesh	India	Kenya	Ethiopia
<i>Biography</i>				
Sex (F/M)	F:4; M:23	F:7; M:12	F:21 M:8	F:11; M:17
Highest educational level achieved	D:13; P:13; u/n: 1	D:16; P:3	D:9 P:15 T:5	D:13; P:15
	(D = Doctorate; P = Postgrad; T = Tertiary u/ n = unknown)			
<i>Sectors</i>				
Government	13/30	5/33	9/21	5/7
Civil Society	4/11	4/10	7/19	9/11
Bilateral donors	1/3	0/2	1/6	5/8
Multilateral donors	2/4	1/4	5/13	6/7
Practicing clinicians	1/3	2/2	0/0	0/0
Researchers	3/9	7/20	4/9	2/4
Media	0/0	0/8	1/1	1/1
Private sector	1/4	2/6	0/0	0/0
Total	27/67	19/80	29/85	28/38
Of which...				
<i>Job roles</i>				
Nutrition ^a	10/20	14/26	19/47	23/32
Food security	7/11	1/3	0/2	1/1
Agriculture	2/3	1/4	1/1	1/1
Health	0/8	1/1	3/9	0/1
Other	8/25	2/40	6/26	3/3

^a Nutrition an explicit part of their role.

and practices within nutrition. Collectively this allows us to say something about the capacities of individuals we interviewed.

Motivations and backgrounds

Motivations varied amongst the participants we interviewed (including between those in the same sector) but we also observed

a handful of broad professional pathways by which people had come to be influential or to try to exert influence in reducing undernutrition.

Medical professionals (including a number of paediatricians and general practitioners) often began focusing on nutrition when they came to see it in particular circumstances as one of the root causes of the health problems of the populations they worked with. This frequently occurred through first-hand experience in rural environments with a high prevalence of undernutrition early in their careers.

This quest for understanding was put succinctly by one prominent Indian clinical researcher:

"I just wanted to do paediatrics with poor people. But so soon enough, one realizes again the power of analysis, it doesn't work like that [...] if you really want [to make] a child better, roots go back and back, further and deeper, so you know you have to have some kind of socio economic political understanding of the situation, then only you can make an actual impact."

Other medical professionals, including researchers, were motivated by a one-off exposure to nutrition problems, such as for example a field visit in which the individual witnessed a high prevalence of goitre. These medical professionals comprised both decision makers and influencers, and many, but not all were highly effective.

Several of the professional nutritionists (clinical and academic) that we interviewed were motivated to enter the field due to personal experience with nutrition problems (e.g. in their communities, with friends or relatives, etc.). They may have been motivated by larger health problems and then decided to focus specifically on nutrition, e.g. 'My mom lost 6 children so I wanted to address that.' A few of these nutritionists were cited (by self and others) to have moderate to high influence, though sometimes cited the fact that it was difficult as a nutritionist to hold a position of high formal power.

Another group of professional nutritionists were motivated to enter the field of nutrition because of professional practicalities and lack of opportunities elsewhere. For example, they may have been placed in nutrition by their school's system or may have been unable to find a place on a medical degree.

Professionals in other related fields, e.g. agriculture, food security, development, economics, public health, indicated that they became interested in nutrition because of one or more of the following factors: (a) field experience, (b) professional opportunities, (c) convincing evidence. This category is wide and so therefore were the relative levels of influence. This includes:

- Professionals who were exposed first hand to (severe and acute) malnutrition in emergency and/or famine situations.
- Public health professionals who were working on other issues, such as e.g. HIV/AIDS and then were persuaded (motivated by the evidence or persuaded by opportunities) to transfer those skills to address nutrition.
- Professionals who viewed a convincing report (e.g. a UNICEF report) and were struck by the magnitude of the problem and the opportunity to do something about it.

Mentors

Senior colleagues within participants' organisations or institutions were mentioned by some as influential or inspirational, but not by the majority of respondents, in response to a specific question on past or current mentors. These types of mentors were cited for: management strengths, passion for nutrition, vision, or ways of working or being, or general encouragement and support. Senior colleagues in the wider (country or international) nutrition community were mentioned in few cases as influential by respondents across professions. Family members were mentioned by some stakeholders in each country; these were largely parents or siblings who encouraged them to work hard, aim high, etc, but did not necessarily persuade them to take up a career in nutrition. Many people mentioned the fact that they did not have mentors or were even actively discouraged from pursuing nutrition. This discouragement was cited by a number of medical professionals in particular:

"Unfortunately when you are a physician it was not like for my most of friends an appealing field. Public health was not an appealing field. So there was not much that I got in source of encouragement. All my friends and I have some relative who are also physician. Most of them in fact discouraged me going to public health. But the experience I had was so immense so that I decided to do nutrition. So... I didn't kind of have mentor or somebody to encourage me to do nutrition."

Knowledge of undernutrition and its causes

Unsurprisingly, participants working directly in nutrition policy or programming displayed a wide range of (technical) knowledge on nutrition specific and nutrition sensitive interventions; the wider evidence base and different programmatic approaches and implementation and capacity issues (discussed below).

However, knowledge of nutritional issues was limited in stakeholders who were not directly working in the nutrition sector. This was particularly the case amongst agriculture stakeholders – who talked only broadly in terms of the need for (nutritional) quality of food as well as quantity/availability. One agriculture official in Kenya asked, for example, "how do you talk of nutrition even before the food? Even before balance, the immediate thing is something to put in this stomach". This food/agriculture bias,

which we discuss below, was compensated by the fact that several respondents were able to draw on cross-sectoral knowledge from wider parts of their jobs or earlier careers – including e.g. in wider food security; HIV and Aids; social protection. There were few mentions of Water, Sanitation and Hygiene, which may stem either from limitations in our sample or a general underestimation of this link.

Individual capacity for analysis and individual framings of the nutrition policy situation

While we were unable to conduct a detailed assessment of the development levels of the individuals we interviewed, from our interview data (reporting by self and others) we undertook a crude differentiation between individuals at highly advanced (i.e. post-conventional) and moderate (conventional) levels of development.⁸

This was assessed in part through interview questions designed to understand participants' abilities to analyse the nutrition situation in their countries and the strategies and activities that they identified and/or implemented to move nutrition policy forward within their country. This can be described as a distinction between the 'knowledge' of the conventional stages (e.g. socially programmed; increasing differentiation; discovering patterns, rules and laws; predicting, measuring and explaining) and 'wisdom' of the post-conventional stages (self-other constructions; increasing integration; recognising assumptions; seeing whole dynamic systems) (Cook-Greuter, 2004, 2005, drawing on Loevinger and Wessler, 1970; Commons and Richards, 1984; Fisher and Torbert, 1995 and Cook-Greuter, 1999). Here it is important to note that later stages always encompass the earlier stages of development (e.g. individuals in post-conventional still can engage in predicting, measuring and explaining, but can also go beyond this).

Overall, we identified a small number of individuals in each country (2–6) operating in post-conventional levels of development, and the majority of stakeholders operating at conventional levels of development. All of the individuals that we identified as having post-conventional levels were repeatedly identified by others as effective leaders. In addition, some individuals at conventional levels of development were also identified as effective leaders.

Analytical themes identified by stakeholders operating at either level echoed many of the themes in the literature reviewed in (Gillespie et al., 2013) and discussed in the next two sections including: a lack of – or malfunctioning – multisectorality; the disconnect between policy and practice; a lack of donor or NGO co-ordination with government; and the lack of appropriate indicators. Participants revealed themselves to be astute and articulate observers of the policy environment, at least to the extent that their analysis frequently reflected and expanded on current themes within the wider literature (including e.g. multisectorality) and translated this into practical and easily understood maxims guiding their own approach to their work:

"multisectorality is not about making everyone an expert across all sectors, but is about how everyone can measure their outcomes in terms of the collective impact on a single person"

[NGO country manager, Ethiopia]

In addition, a small number of individuals, who we would identify as having post-conventional levels of development, demonstrated a recognition of the lack of certainty around existing knowledge and evidence and the opportunities and limitations of all stakeholder perspectives, including his or her own. These

⁸ We did not interview any individuals who we would consider to be in pre-conventional levels of development.

individuals were able to recognise their own need to transcend particular framings of the situation or to learn different disciplinary languages in order to understand others' perspectives or work to convince them of a particular way of dealing with the issue. This might have been identified as the ability and willingness to 'listen' and learn from others. The latter included being particularly alive to what rural communities were telling them, but also to what other nutrition stakeholders might have to say, even if it conflicted with their own beliefs.

Strategies and actions pursued

In an analysis of the strategies or actions that participants pursued in relation to nutrition (drawing on (Jordan, 2011)), we encountered individuals who (i) recognised problems but pursued strategies which were tangential to these problems, and (ii) pursued strategies that aimed to directly address the impasses that they (and others) identified. An example of the first category would be individuals who recognised the problems of conflicts of values, lack of understanding and silos but who focused on the development or dissemination of a technical solution or implementation of a project. For individuals in the second category, if there was a disconnect between stakeholders, that person was involved in bringing them together; if people did not understand the evidence, they were engaged in activities (personally or at a sector level) which aimed at communicating that evidence in terms more widely understood and which resonated with wider perspectives and priorities. Or, if a new operational design was needed, they experimented with different options.⁹ In other words, individuals in the second category have the vision and competences required to address constraints in nutrition policy.

While many individuals across the four countries explicitly referred to situations where they had had an influence on policy when decision makers had approached them for advice, a few in each country reported they had directly set out to influence high level decisions makers such as Ministers or Senior Civil Servants. Of these, only a few spoke explicitly about the diversity of tactics and the strengths required to influence policy, including formal and informal networking, sheer tenacity or stubbornness, good preparation in the face of high level stakeholders and good use of local and international evidence (see below).

Positioning within social networks

In analysing the shape of the networks in each of the four countries, we notice a potential relationship between the shape and coherence of the network¹⁰ and the attributes of effective champions. For example, the nutrition social network at the time of research in Bangladesh was observed to be relatively fragmented.

⁹ We did not attempt any assessment of the viability or likely effectiveness/impact of the solutions proposed.

¹⁰ General network shape and maturity was assessed based on Net Mapping exercise in each country. The 'shape' and 'coherence' of a network are terms in network theory which relate to the structure of the network. In terms of shape, networks can be more or less centralised, can have varying degrees of density, and can also vary in the extent to which the 'parts' or sub-clusters within the network are connected (i.e. fragmentation). Related to this, 'coherence' refers to the number of individuals which serve to connect different parts of the network to each other. For example, in some nutrition networks, only one or two individuals might serve to connect a group of technical nutrition experts to a group of policy actors, or a group of nutrition researchers to a group of private sector stakeholders. In such cases, these individuals could serve as brokers or mediators. In networks which are already well connected, individuals with the ability to broker may be relatively less 'essential'; individuals playing other roles, such as raising awareness or collaborating to identify concrete technical approaches may be more critical in catalysing change. For more on network analysis in this context see (Scott and Carrington, 2011; Williams and Hummelbrunner, 2010).

The individuals cited as most effective in contributing to positive changes in nutrition policy in Bangladesh tended to be those who were able to span the domains of research and policy, nutritionists and non-nutritionists, newcomers and gatekeepers.

In Kenya, on the other hand, the network was more mature, and though it was not entirely cohesive (e.g. still some rifts between the Ministry of Medical Services and Ministry of Public Health and Sanitation), individuals were able to band together when necessary (e.g. in ensuring that the breastfeeding marketing bill passed). The key leaders in Kenya were the ones who were able to bring an already relatively more cohesive nutrition community together to speak 'with one voice'; to facilitate participation and collaboration to address specific issues and gaps within the country in contrast to the more fragmented nature of the network in Bangladesh

"We've focused on putting in place structures that facilitate participation. So what we do here is we acknowledge everyone and their strengths, and we include everyone. We made a turn-around, initially we told everyone that this is what the government says, now what we do is we embrace participation and we work under what we call a sector-wide approach where the guiding principle is government needs all partners on board. You must lead and be within the network."

[Ministry official in Kenya cited as significantly improving nutrition coordination]

Networks in India and Ethiopia showed some similarities in that lines of attempted influence were mostly directed towards one or two nodal points (key ministries, the Planning Commission), with a key difference being the heightened role of civil society in India, with participants frequently crossing boundaries between civil society, academia and the state (c.f. Chopra, 2011a).

The political environment

Whatever their personal attributes, skills, knowledge or charisma, participants' ability to effect change is determined in part by the wider policy and political environment – which can be either enabling or constraining of change (Gillespie et al., 2013) and which, crucially, is open to some influence by actors within the field such as our participants. This came across strongly in nearly all the interviews – which serve therefore a dual purpose both in conveying the views of the different country nutrition leaders on the enabling environment for nutrition and in demonstrating the extent of their abilities to analyse and influence the political and policy processes around nutrition in their country.

Government commitment

A consistent point across all countries identified by the participants was the gap between rhetoric and reality, with politicians' political statements in support of action on nutrition or in recognition of the situation rarely following through to concerted action on the ground. As one participant in Bangladesh expressed it "certainly there's kind of this verbal commitment to nutrition, but there's a lot of people including the ministry of health who I think don't really understand much about nutrition" or as another participant in Bangladesh noted "Nutrition is no-one's baby".

In Ethiopia there was a sense that nutrition did once have committed champions within government. But a few similarly questioned commitment and understanding of nutrition at high levels, with one civil society respondent complained in frustration "You know I never heard big minister talking about nutrition in this country". A similar picture was presented in India and Kenya

of the lack of real (rather than rhetorical) high level political support at a Prime-Ministerial or Presidential level.

External to government – civil society, donors and the private sector

Although many respondents were drawn from civil society, it was only really in India that civil society were clearly seen as influencing and driving change – particularly because of the role of the Right to Food Campaign and the link of several prominent individuals (including several in our sample) to the ruling congress party or via positions on the National Advisory Council).¹¹

In Bangladesh, political influence external to government in this sector appeared to emanate from a combination of respected researchers and paediatricians and multilateral donors. A small number of the researchers and prominent paediatricians were seen as very close to government and influential in shaping policy. But donors were also seen as particularly important given the role of the World Bank in the recent decision to scrap the older, vertically delivered (ie as a separate programme) National Nutrition Programme; in preference for a horizontally delivered National Nutrition Service 'mainstreamed' into existing community health provision.

In Kenya, key individuals within government were amongst the most influential actors, though backed up by supportive donors providing technical support, funding and working to convene groups across governments and the active donor and NGO sectors. In Ethiopia, government and donors were also seen as the most influential sectors but there were few references to key individuals compared with other countries, whether inside or outside of government, perhaps reflecting the more authoritarian political structure of Ethiopia.

A common concern about donor power across Bangladesh, Kenya and Ethiopia was about the ways in which donors were 'siloed' into concerns about their own programmes; or, in Ethiopia and Kenya about their tendency and ability to collect vast amounts of data without sharing it, leading to duplication of efforts and wasted resources and missed opportunities for local organisations. In India, donor power was not seen as particularly strong by the majority of stakeholders but there were concerns from a number of the civil society activists we interviewed over donor collusion with the private sector and claims that international bodies are acting as a front for private sector interests. However, some of the participants explicitly praised particular donors for their role in galvanising support for nutrition in their countries – including for example a number of positive references in Kenya and Ethiopia, with one Ethiopian National working for large multilateral agency stating:

the donor communities here in Ethiopia and the development partners, they are really committed to support the nutrition agenda in Ethiopia. [donors are] more engaged in programming issues now than before.

Despite several mentions in terms of 'vested interests', there was very little reflection overall on the role of the private sector and neither did the private sector feature heavily in the organisations or individuals identified originally or subsequently interviewed as part of the study. One pharmaceuticals company in Bangladesh was identified as a positive example of localised commercial production of micronutrient sprinkles. But more often participants spoke in terms of (in the words of a participant in Bangladesh) the "sad history" of commercial involvement in the sale and marketing of infant formula – leading to a long term split in the nutrition community which we consider in more detail below.

The knowledge environment

The political landscape described in 'The political environment' is important not because we feel it offers an accurate picture in the four countries studied, which would require more work at a country level, but because it reveals something of the fragmentation of the nutrition landscape in the eyes of our influential participants, which in some cases was leading to a lack of a cohesive narrative on effective action. This can be broken down to the way in which nutrition is framed internally amongst the nutrition community; and externally to the wider public or to key decision makers (Pelletier et al., 2012; Shiffman, 2010; Shiffman and Smith, 2007). Alongside this, the current state of knowledge and evidence and the existence of credible data or indicators have been highlighted in the literature as significant precursors to raising nutrition up the political agenda, which we cover in a further section below (Gillespie et al., 2013; Pelletier et al., 2012, 2011; Shiffman, 2010; Shiffman and Smith, 2007).

Internal and external frames

In Bangladesh and India; and to a lesser extent Kenya, a number of respondents reported on the fracture in the nutrition community between advocates of breastfeeding and those taking a wider view of nutrition specific interventions including micronutrients, but in particular the use of Ready to Use Therapeutic Foods in the treatment of Severe Acute Malnutrition. This has led to a split – both internally and externally perceived – in the framing of the issue. One donor representative in Bangladesh complains for example, in a manner suggesting fractures in internal framing:

"And are nutritionists all talking about the same thing? One group says only breast feeding; another says breastfeeding plus complementary feeding; another says micronutrients; another says RUTF"

In India, one leading campaigning breastfeeding advocate discussed at length the issues around private sector involvement in promoting formula. This resulting distrust of the private sector was a strong feeling was shared amongst several of the civil society activists interviewed. Others, whilst recognising the damage done by the irresponsible marketing of infant formula, were concerned that a small group of individuals linked to breastfeeding promotion were stymying wider debate on the range of "evidence based" policy options that would extend beyond breastfeeding support. A couple went further to directly criticise (in the words of one) the "faith based" influence of civil society actors and breast feeding groups undermining evidence based approaches" (this particular interviewee was in a position promoting private sector partnerships in Nutrition).

In Kenya, breastfeeding was also a current and important topic at the time of the research because of the passage of a new bill through parliament on the regulation and control of breast milk substitutes.¹² A number of participants were concerned that the two nodal ministries for nutrition – the Ministry of Public Health and Sanitation (MoPHS) and the Ministry of Medical Services (MoMS) – were advocating different approaches to breastfeeding and the use of formula. However, the two ministries eventually joined forces and spoke with one voice on the bill, which many stakeholders saw as essential to its passing.

Other splits in the internal or external framing of nutrition resulted from the mixed role of donor influence discussed in the last section, with donors seen by some (including by some donor representatives themselves), as pushing their own agendas to

¹¹ See (Chopra, 2011a, b) for further background.

¹² The Breast milk Substitutes (Regulation and Control) Act 2012.

country governments to the detriment of a wider coherent message (the external frame).

The role of food in the internal and external framing of nutrition was a key issue in India and Kenya, where it was perceived that the nutrition community has failed to delink food and nutrition properly in the popular discourse, with food based solutions to nutrition drowning out other responses (in e.g. promoting care or better water and sanitation provision) (cf. Pelletier et al., 1995 on the ‘food bias’). This was summed by an activist in India:

we have failed as civil society and that includes me very much so in delinking food with nutrition [ie] to say that food is a necessity but not a sufficient condition that there are other key social determinants.

In Kenya, it was mainly food based ‘emergency’ nutrition (acute, short term responses to humanitarian crises) suppressing calls for longer term ‘development’ nutrition.

The role of knowledge, evidence and data

The role of knowledge, evidence and data was clearly emphasised in many of the interviews, with a wide variety of opinions expressed on the role of research in policy influence; and the effectiveness of different forms of knowledge and evidence. Particularly and repeatedly highlighted was the importance of locally collected and commissioned research, knowledge and data.

This local touch was seen as a necessary factor in achieving the policy influence of research – with individual brokers seen as critical in communicating research to decision makers. In Bangladesh, for example one influential research participant warned that politicians are wary of being “dictated to by donors and so...” but will usually listen if issues are explained carefully by a trusted interlocutor. All the more important, in this researcher’s opinion, was to contextualise the evidence as Bangladeshi:

“we can generate evidence locally. When you go and talk with the minister and tell him that look, this is something that has been tried in Africa, the immediate response will be that if we think this works in Africa we think that this is going to work in Bangladesh? Forgot it. [...] So that means you have to be prepared with a solution that is Bangladeshi.”

This was reflected by a participant in India noting the importance of research being tailored to the Indian context, complaining “we cannot passively turn to some framework or systems of analysis which are used in western or other places and apply that to us”. Another Indian participant advocated a more rapid fire assessment tailored to specific states and decision makers. An Ethiopian participant also criticised the ‘bitty’ or siloed nature of some local knowledge and data collection and advocated the need both to use this knowledge better in local planning decisions and to “look at the bigger picture and answer the big research questions”. This was a call echoed by another Ethiopian participant and a few of the Indian participants, who called for better monitoring and operational studies better district and regional level data sets respectively.

The need for an *internally* neutral arbiter was also called for in India by an influential participant who expressed frustration at the fact that debates in India were still revolving around the views of a limited group of stakeholders with high levels of policy influence. He felt that India needed “some kind of very credible research by someone influential, someone unimpeachable” (in later conversation this participant clarified that this should be a new Indian institute rather than an external body). This was also requested by a couple of other Indian participants who noted the influence of the data collected by India’s National Family Health

Survey (NFHS) as being due to being seen as external to and critical of the Ministry of Women and Child Development’s own data.

But at the same time, some participants indicated that external arbitration of data and evidence can also aid in increasing the weight behind particular policy options or the ‘kudos’ (in one participant’s words) in following a particular (externally advocated/evidenced) policy option. In some cases, this external factor was seen as necessary in forcing difficult decisions.

Summary of findings and conclusions

At the beginning of this paper we considered the available literature within and outside of nutrition on nutrition leadership and posed four key questions. Here we revisit and summarise some of the key findings in the light of our analysis above and consider the implications for policy. Key findings in relation to our research questions are further summarised in Table 2.

What is motivating people to become leaders in nutrition, is there anything common in their background which may have led to them to champion nutrition?

While there was no single origin, catalyst or long term driver attributable to the leaders we interviewed, there were a few similar pathways which warrant further investigation. Several were in their current positions of leading within nutrition by chance and it was not clear if they would stay engaged in future. Others had similarly stumbled on nutrition by chance earlier in their careers and had deliberately either stayed engaged or had chosen to the field later in their career. A few – including those with backgrounds in clinical practice, had sought out evidence and knowledge about nutrition because they wanted to get to the root causes of aspects of child and maternal health. Some, including professional nutritionists and some medical professionals, were motivated by a drive to change a situation that they witnessed intimately, through their home communities, rural placements or experiences with friends and family members. The ‘stickiness’¹³ of the topic of nutrition for some; and the rewards of engagement with some of the complexities of the issue, suggest that there may be merit in other means of exposing potential leaders from a range of fields to nutrition evidence and knowledge as a way of encouraging future support (notably this research has not extended to how we identify future leaders (those not already deemed influential) – which remains a significant gap for future research).

What enables leaders to operate effectively in the nutrition policy sphere; In particular, what are their analytical and political capabilities?

We found a (perhaps unsurprising) relationship between effective leadership and higher levels of adult development, which we observed through participants’ constructions of issues and identification and implementation of solutions. All of the individuals who we assessed as ‘post-conventional’ in their levels of adult development were indicated by others to be effective in improving nutrition policy at a national level. As to be expected, not all individuals in positions of formal power or influence had high levels of development, but we propose that nutrition policy would benefit from more individuals having advanced analytical or “sense-making” capabilities. Alongside developing individuals already in the field, incentive structures and rewards to attract other capable individuals into the field need to be reconsidered. While such individuals may benefit from further capacity development or support, it is likely that their needs will be different than the average nutrition stakeholder.

In line with actor-network theory and concepts from systemic leadership, our indicative findings are that types of leaders and

¹³ Ie whether on coming across the issue it ‘sticks’ with them and becomes an issue about which they actively care.

Table 2
Summary of research findings and implications.

Research question	Findings	Implications
What is motivating people to become leaders in nutrition, is there anything common in their background which may have led to them to champion nutrition?	<ul style="list-style-type: none"> – No common origin/catalyst drivers – But several common pathways including exposure in situations of high malnutrition prevalence or wanted to understand the root of health problems 	<ul style="list-style-type: none"> – Nutrition is 'sticky' for some – expose as many potential leaders as possible to the realities of undernutrition
What enables leaders to operate effectively in the nutrition policy sphere; In particular, what are their analytical and political capabilities?	<ul style="list-style-type: none"> – Most effective leaders able to deal with complexity; systemic thinkers; post-conventional levels of adult development – Roles depend on networks: in fragmented networks, they may be boundary spanners; in less fragmented but not cohesive networks they may be co-creators; Individuals may change roles depending on need and capacities 	<ul style="list-style-type: none"> – Find ways to support these capabilities & build them in others – Encourage development of networks
What are the external challenges and barriers to their effective operation?	<ul style="list-style-type: none"> – Donor/CS politics – Fragmentation/lack of coherent frames – Lack of executive level political commitment (rhetoric not backed by reality) – Knowledge and data gaps (below) 	<ul style="list-style-type: none"> – Consensus building – Accountability mechanisms for top-level commitment – Consult identified leaders on political constraints
What do leaders assess as the knowledge gaps; how do they employ their existing knowledge?	<ul style="list-style-type: none"> – Gaps – effective multisectorality, timely data, operational research – Effective use – locally sourced and or translated for policy audiences 	<ul style="list-style-type: none"> – Consult identified leaders on knowledge/data gaps – Support local research supply & demand & local knowledge brokers

activities that were effective varied with the shape and maturity level of the nutrition social network. Fragmented networks benefitted from boundary spanners; more mature networks benefitted from individuals who could foster an environment of co-creation (potentially, the same individual leaders might follow different strategies when faced with different contexts). Arguably, countries with high levels of fragmentation could benefit from leaders who could change the shape of the social network rather than simply operate effectively within it. As the characteristics of networks change over time, the type of leadership which will be effective will also shift: either people will adapt to the situation and play new roles, or other individuals will step into new roles.

One implication from this research is that increasing the adult development levels of individuals within the nutrition community could enable these people to work more effectively towards improvements in nutrition-related policy. Research from outside of the field of nutrition indicates how these wider leadership capabilities can be developed. Formal processes of developmental coaching or participation in adult development programmes (Pfaffenberger, 2005; Torbert, 1994) have been shown, experimentally, to increase adult development levels (e.g. see (Manners et al., 2014) for findings from an experimental study). However, such processes require a relatively longer period of time (i.e. 9 months or longer) for an individual to progress.

Because of the time and resources required for developing such capabilities in individuals, an alternative – or additional – option is to facilitate processes which raise the collective adult development level of a group at the time of engagement. These conversational processes have already been reviewed and detailed (e.g. Holman et al., 2007 and Jordan et al., 2013), and some have already been applied to nutrition policy (e.g. Open Space in India). The participatory stakeholder mapping exercises described in the methodology section (Schiffer and Waale, 2008) (POSHAN and Transform Nutrition, 2011; Transform Nutrition, 2011a, b, c), or other complex mapping processes could also potentially serve this purpose. Arguably, it would be ideal to combine such processes with efforts to increase the number of nutrition leaders operating at post-conventional levels of development, particularly as the participation of individuals operating at these levels has been identified as one of the success factors for these processes (Atlee, 2010).

Programmes which aim to encourage and develop wider leadership qualities in nutrition rather than simply imparting technical knowledge offer another model to develop non-technical

capabilities and include the African Nutrition Leadership Programme (ANLP). A summer school run by the UK's Institute of Development Studies and the International Food Policy Research Institute has also attempted to develop this balance between knowledge and competencies. Alongside nutrition knowledge, participants have been taught practical skills in stakeholder mapping; advocacy; knowledge translation; and the formation of credible and effective narratives and advocacy messages.

Another implication is that it may be useful to engage more with and/or provide support to those individuals who already exhibit post-conventional levels of development and are actively engaged in and motivated to address maternal and child undernutrition. Supporting individuals who are already have strongly developed leadership capabilities could better allow them to serve as 'free actors' in their networks. 'Free actors' have the 'capacity, the insight and the position to do what is necessary to help the network overcome the major obstacles' (Wielinga et al., 2008). The need for support (e.g. financial support to allow for independent manoeuvre) for free actors within nutrition networks was identified by some stakeholders interviewed in this study, particularly in Kenya, where environmental activist Wangari Maathai was cited as an example.

What are the external challenges and barriers to the effective operation of leaders?

The main barriers our informants find themselves navigating and addressing are the familiar political economy themes of donors overstepping their mark, line ministries and development actors operating in silos, controversies about the appropriate roles for the private sector; and further issues specific to nutrition, including overcoming the 'food-first bias' in public policy (Pelletier et al., 1995); a lack of local level knowledge, evidence and data to inform policy, programming and advocacy; and the fragmentation of the community in some contexts unable to focus around a coherent set of goals. This set of findings speak clearly to perspectives that see leadership as a continual political process (Leftwich and Wheeler, 2011) and lends support to conclusions of earlier exercises of the need for consensus building and strategic capacity across the nutrition field (Hoey and Pelletier, 2011; Pelletier et al., 2011).

Our informants cited no clear case of executive support in each of the four countries – where there was Prime Ministerial or Ministerial backing, it was said to be political rhetoric rather than real commitment. In some cases it was felt that this rhetoric



Fig. 2. A theory of change for supporting nutrition leadership.

created space for action by champions or policy entrepreneurs with lower relative power (i.e. less formal or 'decision-making' power). However, rhetoric without action backing it up was seen by some individuals in e.g. India as counter-productive to sustained action on nutrition. Finding ways to help parliaments and civil society to hold ministers and bureaucrats to account for their commitments in nutrition – including e.g. via new initiatives such as the Hunger and Nutrition Commitment Index (te Lintelo et al., 2014) – may be one way of turning more of the rhetoric into reality in this field.

What do leaders assess as the knowledge gaps; how do they employ their existing knowledge?

Most of those interviewed had a good understanding of current global evidence on nutrition specific and nutrition sensitive determinants and interventions. This is itself something of a relief given the poor capacity in public health nutrition training identified in some high burden regions (e.g. (Khandelwal et al., 2014)). Again, the more capable leaders were those who were actively and strategically working to create, commission or translate new forms of

knowledge into locally understood examples or messages that would influence political decision makers.

A number of themes common to the literature were highlighted by participants as potential knowledge gaps or areas for further exploration – including the means of multisectoral co-ordination; the role of locally relevant, timely data and more operational research on overcoming some of the significant challenges participants were facing in implementation.

These findings all speak to already strong calls for better, more localised, more timely data and research in the nutrition field (the supply side) – but also for the need to support local demand and capacity to commission, interpret and carry out this research. Wider donor support for these brokering capacities in nutrition knowledge and policy may be an avenue for further support in this area in future.¹⁴ Finally, this research suggests the need for better consultation with the kinds of people we interviewed in terms of key issues, knowledge gaps and needs when commissioning research in the first place. Ignoring the needs of those most likely to turn evidence into action would seem to set up most research to fail to make a long term impact on the crisis of undernutrition.

Research gaps – next steps

Fig. 2 draws from the implications outlined in the previous section to consider a number of further avenues for research and action which might help shape a specific policy response focusing on supporting and maintaining the capacity of nutrition leadership. This serves as a draft theory of change in the processes needed to turn broad categories of decision makers, influencers and clients into nutrition champions, policy entrepreneurs and supporters (Heaver, 2005). The responses range from the obvious but much needed (more training and capacity building) to the innovative but difficult to achieve (immersions for existing high level decision makers; accountability mechanisms for nutrition 'clients').

Further work is needed to consider how the findings here might help shape or re-shape the international community's support to existing initiatives in nutrition leadership and recruitment of leaders to formal roles or capacity building initiatives – including e.g. the work of the UN's REACH and the SUN movement or regional initiative such as the ANLP or Action Against Hunger's support for Nutrition Champions in West Africa. We cannot say with any certainty what the nutrition policy landscape would be like if these specific nutrition leaders did not exist – but having identified leadership as a common factor in success in promoting action on nutrition, a great deal more investment (in action, supported by research) is needed to (1) develop the next generation of nutrition leadership and trial and evaluate the options identified and summarised in Fig. 2; and (2) increase the knowledge and capacities of leaders to deal with wider challenges in the enabling environment for nutrition policy which have been identified elsewhere (Gillespie et al., 2013).

A number of further gaps in this formative research remain including: understanding more about the motivations and skills-formation of leaders themselves; a better understanding of what creates nutrition champions from the wider field of senior decision-makers; and more research (including quantitative research) on how investment in leadership can pay off in terms of measurable changes in coverage, quality of services and budgets. Further and more detailed case studies are needed of the role of individual leaders and champions in particular cases of success. Finally, ongoing research also needs to link these studies to more

contextual political economy work to fully understand leaders as situated in complex and adaptive political systems – not least to consider the 'vertical' links between leaders at ground and mid-levels of nutrition delivery and implementation with the national level leaders considered here.

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¹⁴ Examples within nutrition include e.g. example the Bill and Melinda Gates' foundation's support of the POSHAN network in India or, outside of nutrition, the IDRC's 'Think Tank' initiative, which explicitly looks to support the effectiveness of local, policy-oriented, research.

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